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(FOUO 1/80)

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DEMOGRAPHY

STRUCTURE OF CENTRAL ASIAN, KAZAKH INTELLIGENTSIA EXAMINED

Moscow ISTORIYA SSSR in Russian No 1, Jan 80 pp 154-164

[Article by T. Durdyyev: "Changes in the Number and Structure of the Central Asian and Kazakh Intelligentsia at the Present Stage"]

[Text] To an ever greater extent the attention of historians, philosophers and economists is being drawn to problems of the history of the Soviet intelligentsia and its national detachments. Recently, numerous scientific and popular-science books have been published on various aspects of the shaping and development of the multinational Soviet intelligentsia and its role in the building of socialism and communism.[1]

A major step was taken also in developing the history of the intelligentsia of union and autonomous republics, including the republics of Central Asia and Kazakhstan.[2] Works covering this area cover a broad range of problems on the history of the Soviet multinational intelligentsia in the various stages of the building of socialism. However, the 1959-1975 period has been discussed in general lines only.

The present article is an attempt to consider the growth of the engineering-technical intelligentsia and of scientific workers in the republics of Central Asia and Kazakhstan in the 1960's-1970's. The intelligentsia's role rises in the stage of developed socialism in resolving the most important socioeconomic, scientific and technical, and cultural-educational problems required for the successful progress of our country toward communism. Its numbers are rising rapidly. A study of specific data indicates faster growth rates of the intelligentsia in the republics of Central Asia and Kazakhstan until the 1960's. At the stage of developed socialism, however, the growth rates of this indicator became gradually equalized as a result of the fact that, in terms of the saturation of the national economy with specialists with higher and secondary specialized training, this area came closer to the median union level.

Our country's entry into the developed socialist period and the tasks of laying the material and technical foundations for communism, molding communist social relations, and the upbringing of the new man called for

increasing the number of specialists in the various national economic sectors, specialists who could resolve complex production-economic, scientific and technical, ideological, and cultural problems.

The development of secondary specialized and higher education plays an important role in cadre training. The 9 May 1963 CC CPSU and USSR Council of Ministers decree "On Measures for the Further Development of Higher and Secondary Specialized Education and Improving the Training and Utilization of Specialists," the 3 September 1966 decree "On Measures to Improve the Training of Specialists and Advance the Management of Higher and Secondary Specialized Education in the Country," the 16 November 1967 decree "On Improving the Training of Scientific and Scientific-Pedagogical Cadres," and the 18 October 1971 decree "On Measures to Improve Further Material and Housing-Living Conditions of Students in Higher and Secondary Specialized Educational Institutions" defined the tasks of the further development and advancement of the specialized education system, and of all ways and means for the reproduction of specialists and for improving the training of scientific and scientific-pedagogical cadres. They paid great attention to intensifying the pace of secondary-education cadre training, the opening of new higher and secondary specialized schools in the eastern parts of the country, and improving the training of higher- and secondary-school specialists in accordance with scientific and technical progress. The decisions of the 24th and 25th CPSU congresses earmarked specific measures aimed at strengthening training-material facilities, improving the training, scientific, ideological-political, and educational work of VUZ's and secondary specialized schools, and the training and retraining of their teaching staffs.

In the course of the 1958/59-1975/76 school years, 33 new VUZ's and 200 secondary specialized schools were opened in the Central Asian and Kazakhstan areas. Within that time the overall number of university students nearly tripled, while that of students attending secondary specialized schools increased by a 3.1 factor as against the factors of 2.2 and 2.4, respectively, for the entire USSR.[3]

The graduation of specialists rose steadily with the expansion of the network of higher and secondary specialized schools and of the number of enrolled students. From 1960 to 1975 the graduation of specialists with VUZ education per 10,000 population rose from 16 to 26 for the Uzbek SSR, from 10 to 22 for the Kazakh SSR, from 11 to 23 for the Kirgiz SSR, from 11 to 22 for the Tadzhik SSR and from 14 to 19 for the Turkmen SSR. The training of specialists in the secondary specialized schools of these republics rose respectively by factors of 2.2, 2, 1.7, 1.9 and 1.3.[4]

The cadre training structure changed as well. The overall number of students attending industrial-technical schools rose rapidly. Between 1960 and 1975 the share of students enrolled in technical VUZ's rose as follows: Uzbek SSR, from 12.3% to 20% of the overall number of all students; in the Kazakh SSR, from 12.8 to 30.2%, in the Kirgiz SSR, from 12.2 to 27.4%; in the Tadzhik SSR, from 6.5 to 10.3%; and in the Turkmen SSR, from 0 to 18%.[5]

The share of students belonging to the indigenous population rose as well. Within a single decade (1960-1970) it rose from 35.9 to 48.3% in the Uzbek SSR, from 31.6 to 37.6% in the Kazakh SSR, from 34.4 to 41.7% in the Kirgiz SSR, from 23.1 to 31.2% in the Tadzhik SSR and from 34.5 to 41.8% in the Turkmen SSR.[6]

Speeding up progress, the scientific and technical revolution is helping to broaden the scale and intensify the pace of national economic upsurge. It is introducing radical changes in the social division of labor and leading to the appearance of new professions and skills. This leads to deep quantitative and qualitative changes in the structure of the intelligentsia and to the growth of its role in the creation of the material and spiritual prerequisites for communism.

The personnel engaged in mental work is increasing within the general population structure at a fast pace. Between the last two censuses the overall number of individuals engaged primarily in mental work rose from 19.3 million to 31.4 million people, or 60.3%. Within that period the country's population rose 15.7%. The growth rates of the intelligentsia outstripped the growth rates of the population by a factor of 4. As a result the share of people primarily engaged in mental work, in terms of the overall number of employed population, rose to 27.3%.[7] A similar situation is noted in Central Asia and Kazakhstan, where despite the very favorable demographic situation, the pace of both the natural population increase and the growth of the employed population lagged behind the growth rates of intellectual workers. The share of this percentage of the population rose from 16.3 to 23.6% in Uzbekistan, from 21 to 28.1% in Kazakhstan, from 18.2 to 24.5% in Kirgizstan, from 15.3 to 22.2% in Tadzhikistan and from 19.2 to 25.7% in Turmenistan.[8]

With the rising level of the country's population employment, and under the influence of the scientific and technical revolution, yet another important progressive trend has become apparent in the development of the intelligentsia: its faster growth compared with the active population. Within the period under consideration the growth rates of intellectual workers exceeded those of the active population of the Uzbek SSR by a 2.6 factor; the Kazakh SSR, by over a factor of 2; the Kirgiz SSR, by a 2.4 factor; the Tadzhik SSR, by a 1.8 factor; and the Turkmen SSR, by a factor of 2.4.[9]

Discussing the profound changes in the socio-class structure of the population, L. I. Brezhnev said the following in the CC CPSU Accountability Report to the 24th congress: "The size of the intelligentsia is continuing its fast growth. The number of scientific workers, engineers, technicians, agronomists, teachers and physicians is increasing, while the growth rates of the scientific and technical intelligentsia in our country, in recent years, have exceed the growth rates of all other social groups. This is a natural process. It is a result of the party's policy aimed at the all-round acceleration of scientific and technical progress and the further enhancement of the cultural and education standards of the people."[10]

The requirements of the scientific and technical revolution triggered a tremendous demand for various types of intellectual work and determined the increased number of individuals with higher and secondary specialized training and changes in the vocational-skill structure of the intelligentsia.

Whereas in 1959 476 out of 1,000 population in the USSR primarily engaged in mental work were with higher or unfinished higher and secondary specialized education, in 1970 their number reached 589. The share of workers with practical experience in the overall number of intellectual workers declined from 52.4% to 41.1%. Within that time the number of people with higher, unfinished higher or secondary specialized training per 1,000 population, primarily engaged in mental work, rose from 448 to 570 in the Uzbek SSR, from 430 to 540 in the Kazakh SSR, from 493 to 599 in the Kirgiz SSR, from 473 to 560 in the Tadzhik SSR and from 461 to 566 in the Turkmen SSR.[11]

The scientific and technical revolution faces the skilled cadres in various areas and their professional training with strict requirements, thus objectively encouraging the trend toward a steady increase in both the absolute and relative number of specialists with higher and secondary specialized training. This is natural. In the postwar period the Soviet intelligentsia has been replenishing its ranks mainly through young cadres, graduates of higher and secondary specialized schools.

One of the major trends in the development of the intelligentsia is the high rates of growth of specialists and the steady rise of their share among working people employed in the national economy. In the period between 1 December 1957 and November 1970, whereas the active population of the USSR showed an overall increase of 16.2%, increases were 30% for the Uzbek SSR, 47.4% for the Kazakh SSR, 34.4% for the Kirgiz SSR, 21.3% for the Tadzhik SSR and 32.9% for the Turkmen SSR. Whereas the number of USSR specialists with higher and secondary training rose by a 2.5 factor, it rose by a factor of 2.9 in the Uzbek SSR, 2.9 in the Kazakh SSR, 2.8 in the Kirgiz SSR, 2.7 in the Tadzhik SSR and 2.4 in the Turkmen SSR.[12] The growth rates of specialists with higher and secondary specialized training considerably exceeded the growth rates of intellectual workers. Between the 1959 and 1970 population censuses the share of specialists with higher and secondary specialized education among them rose from 35.2% to 53.5% for the USSR; from 30 to 53.5% in the Uzbek SSR, 32.6 to 47.7% in the Kazakh SSR, 36.4 to 56.5% in the Kirgiz SSR, 35.1 to 53.7% in the Tadzhik SSR and from 37.6 to 49.7% in the Turkmen SSR.[13]

The faster growth of specialists with higher education, compared with specialists with secondary training, is one of the distinguishing features of the development of the intelligentsia of the area in the postwar years. Let us note that the growth rates of the number of specialists with higher education were particularly high in the 1950's, when the solution of important problems of national economic development called for the training of

scientific and technical cadres. Compared with 1940, in 1959 the growth of specialists with secondary training rose by a 3.2 factor in Uzbekistan, 5.5 in Kazakhstan, 5.1 in Kirgizstan, 4.4 in Tadzhikistan and 2.9 in Turkmenistan; the number of specialists with higher education rose, respectively, by factors of 5, 6.8, 7.4, 6 and 5.5.[14] Since the end of the 1950's, as the task of securing cadres for the developing economic sectors of the Central Asian republics were being resolved, their growth rates remained high, even though somewhat slower. Between the end of 1957 and 1975, with an overall growth in the number of specialists with specialized secondary training rising by a factor of 4 in the Uzbek SSR, 4.2 in the Kazakh SSR, 3.7 in the Kirgiz SSR, 3.5 in the Tadzhik SSR and 3 in the Turkmen SSR, the number of specialists with higher education rose, respectively, by factors of 4.7, 4.3, 4.0, 4.8 and 4.[15] Let us note that, compared with the preceding period, in Central Asia and Kazakhstan, under the conditions of developed socialism and in connection with the increased needs of the national economy for secondary skilled cadres, their training rates rose considerably. However, they did not outstrip the pace of training specialists with higher education, as required by production conditions. On 1 January 1941 for each specialist with higher education the Uzbek SSR had 1.7 specialists with secondary education, and 1.0 specialists in 1975. The respective indicators were 2.1 and 1.5 for the Kazakh SSR, 2.0 and 1.2 for the Kirgiz SSR, 2.0 and 1.1 for the Tadzhik SSR and 1.9 and 1.2 for the Turkmen SSR.[16] For the country at large the same trend was visible to a lesser extent.

Thanks to the high rates of cadre training through the specialized schools, in terms of the saturation of the national economy with specialists with higher and secondary training in Central Asia and Kazakhstan came closer to the average for the union. Thus whereas in 1959 the USSR at large had 109 people with higher, unfinished higher or specialized secondary education per 1,000 employed, and 183 per 1,000 in 1970, the respective figures were 83 and 155 for the Uzbek SSR, 106 and 175 for the Kazakh SSR, 103 and 169 for the Kirgiz SSR, 85 and 140 for the Tadzhik SSR, and 103 and 158 for the Turkmen SSR.[17] These data show that considerable successes were achieved in equalizing the level of insuring the republics with cadres with specialists with higher and secondary specialized training. According to the 1970 population census, 1 out of 8 residents of the USSR and 1 out of 10 residents of the Central Asian area and Kazakhstan, 10 years old or older, had higher, unfinished, or specialized secondary training.[18]

A trend toward high growth rates in a number of sectors has been defined in the vocational-sectorial structure of intellectual workers. Whereas between 1960 and 1975 the overall number of specialists with higher and secondary education employed in the USSR national economy rose by a 2.6 factor, it rose by a factor of 3.3 in industrial enterprises and by 4.8 in construction organizations. The same phenomenon was characteristic of that period of the intelligentsia of Central Asia and Kazakhstan. Whereas the overall number of specialists employed in the various national economies rose by factors of 3.2 for the Uzbek SSR, 3 for the Kazakh SSR, 3 for the

Kirgiz SSR, 3.1 for the Tadzhik SSR and 2.8 for the Turkmen SSR,[19] Their numbers rose, respectively, by factors of 3.9, 4.7, 4.8, 4.7 and 3 in the industrial enterprises of these republics, and 7.5, 6.7, 6, 5.4 and 5.5 in their construction organizations.[20]

At the mature socialist stage major changes occurred in the territorial deployment of production forces, as a result of which more promising industrial sectors have been developing in the national republics and enterprises are being retooled and equipped with highly productive machinery. The forms of production organization are being improved, the achievements of scientific and technical progress and progressive experience are being applied, and so on. This increases the need for technical cadres. Thus whereas between the 1959 and 1970 population censuses the overall number of workers primarily engaged in intellectual work rose by a factor of 1.63 for the USSR at large, the number of engineering and technical cadres rose by a factor of 2.09.[21]

The same trend is visible in the development of the intelligentsia of Central Asia and Kazakhstan within the period under consideration. The overall number of workers engaged primarily in intellectual work rose by a factor of 1.88 in the Uzbek SSR, 1.97 in the Kazakh SSR, 1.81 in the Kirgiz SSR, 1.77 in the Tadzhik SSR and 1.77 in the Turkmen SSR; meanwhile the number of engineering and technical workers rose, respectively, by a factor of 2.62 in the Uzbek SSR, 2.39 in the Kazakh SSR, 2.47 in the Kirgiz SSR, 2.58 in the Tadzhik SSR and 2.8 in the Turkmen SSR.[22] These data show that the growth rates of both the intelligentsia as a whole, and of its sectorial detachments, considerably outstripped the average union level. Thanks to this, the share of engineering and technical workers within the overall number of people engaged primarily in intellectual work rose from 15.1 to 21.1% in the Uzbek SSR, from 18.4 to 22.5% in the Kazakh SSR, from 15.3 to 21.9 in the Kirgiz SSR, from 13.2 to 19.4 in the Tadzhik SSR and from 15.1 to 20% in the Turkmen SSR.[23]

In the same area the number of teachers in general educational schools and other educational institutions, physicians, agronomists and planning workers rose at a faster pace as well.

The growth at a faster pace of the scientific intelligentsia is one of the major indicators of changes in the sectorial structure of the intelligentsia. At the developed socialist stage the role of science has risen immeasurably. Science has become a direct productive force and a decisive factor in the further advancement and expansion of material production, its increased effectiveness and the most efficient utilization of material, manpower, natural and financial resources in the country. Hence the objective need for steadily broadening the network of scientific research institutions, comprehensively strengthening their material and technical base, and insuring, on a broad scale, the training of highly skilled scientific and scientific-technical cadres. From 1959 to 1970 the number of scientific workers in the USSR rose by a factor of 2.42, whereas that of VUZ

teachers by 2.36. Their growth rates were higher by factors of 1.5 and 1.4 correspoindingly, compared with individuals primarily engaged in intellectual labor.[24]

High growth rates in the number of scientific workers are characteristic of the republics of the Soviet East as well. Between the latest population censuses the number of scientific workers and VUZ teachers rose, respectively, as follows: Uzbek SSR, by factors of 2.71 and 3.2; Kazakh SSR, 2.34 and 3.84; Kirgiz SSR, 2.62 and 2.82; Tadzhik SSR, 1.94 and 2.68; and Turkmen SSR, 1.97 and 2.31.[25] These data show that despite the fast growth of the scientific intelligentsia in the area, its development (with the exception of the Uzbek and Kirgiz SSR's) remained behind the increased number of scientific workers in the country. This could be explained by the remaining influence of the former backwardness of these republics in terms of their socioeconomic and cultural development.

The training of a new people's intelligentsia and its further development remain one of the general laws governing all peoples taking the path of socialist development. Under those circumstances, big and small nations continue to face problems of educating their intelligentsia in a spirit of socialist collectivism and proletarian internationalism. The common economic, political and ideological foundations and historical tasks organically rally the national detachments of the Soviet intelligentsia, which are entirely new in terms of quality, social composition and spiritual and moral aspect.

Within a single multinational state such as the Soviet Union, the tasks of shaping and developing the intelligentsia and its national detachments were joined: the creation of cadres of specialists in accordance with the requirements of the national economy, capable of contributing to the development of production forces, increasing material and spiritual values, developing culture, science and technology, literature and the arts, and the upbringing of a qualitatively new person--a comprehensively developed individual.

However, the process of molding and developing a national Soviet intelligentsia had, along with general laws, a number of specific features related to the socioeconomic, national and cultural characteristics historically developed by the peoples of the USSR, characteristics which laid their imprint on the entire course of training national cadres. In this connection, some characteristic trends may be traced in the process of development of the national intelligentsia of the area, essentially inherent in peoples converting to socialism while bypassing capitalism. Unlike the developed nations, the national working class and national intelligentsia of the republics of Central Asia and Kazakhstan were established only after the victory of the October Revolution, in the course of the building of socialism. In the prewar period the intelligentsia cadres came mainly from the peasants. The sources for replenishing the ranks of the intelligentsia broadened with the development of socialist relations. According to 1959

data, out of 100 indigenous population employed in the national economy, there were 27 workers and 8 employees in the Uzbek SSR, 44 and 16 in the Kazakh SSR, 22 and 9 in the Kirgiz SSR, 18 and 8 in the Tadzhik SSR and 25 and 9 in the Turkmen SSR. The corresponding figures for 1970 were 39 and 16, 65 and 22, 41 and 15, 37 and 15 and 32 and 17.[26] At the present time intelligentsia cadres are replenished essentially from the working class and employees belonging to the indigenous population.[27]

In Central Asia and Kazakhstan the training of specialists by higher and secondary specialized educational institutions was carried out at a faster pace, in accordance with the Leninist principles of national policy, with a view to the cultural equalizing of such previously backward areas with the more developed ones. Whereas between 1959 and 1975 the number of specialists employed in the USSR national economy rose by a 2.8 factor, including Russians by a factor of 2.8; Ukrainians, 2.9; Belorussians, 3.2; Georgians, 2.3; Armenians, 2.6; and Latvians, 2.2--the number of Uzbek specialists rose by a factor of 5.3; of Kazakhs, 4.5; Kirgiz, 4.2; Tadzhiks, 3.9; and Turkmen, 4.[28] National cadres were replenished particularly quickly. Their growth exceeded the growth rates of the republics' intelligentsia by 47% in Uzbekistan,[29] 36.4% in Kazakhstan, 30% in Kirgizia, 15% in Tadzhikistan and 38% in Turkmenia.[30]

As a result of such major shifts in the training of the national intelligentsia, its share in the intelligentsia of the area rose steadily. From 1959 to 1975 the overall number of specialists with higher and secondary specialized education employed in the national economy of Central Asia and Kazakhstan rose by a 3.4 factor, while among them the share of members of the basic nationalities rose by a factor of 4.7. Their share in the overall number of specialists rose from 30.5% to 42%.[31]

The development of a national intelligentsia among previously backward peoples, including those of the Soviet East, occurring under socialist conditions, was somewhat faster than among the developed peoples. In this case the policy of the Communist Party and the Soviet Government played a decisive role. It was aimed at intensifying the growth rates of production forces in the national republics and equalizing the levels of their economic and cultural development with the help of the working class of the Russian and other developed peoples, the application of specific ways and means accelerating social processes, and so on. This policy led to the social and national liberation of these nations, the reorganization of their way of life, radical changes in family relations, and high rates of development of their economies and cultures, which determined the fast rates of development of their intelligentsia.

Due to the lack of technical VUZ's until the beginning of the 1960's, the supply of engineers to the national economies of the Kirgiz, Tadzhik and Turkmen SSR's (with the exception of agriculture) was achieved exclusively with the help of graduates of educational institutions in other republics.

In the course of their development and strengthening, the industrial and technical schools of Central Asia and Kazakhstan assumed the main burden of the training of technical cadres. This marked a new stage in the process of development of a local technical intelligentsia. Between 1960 and 1975 the number of industrial-technical VUZ's in the area rose from 11 to 20, and of secondary technical schools from 80 to 165; student enrollment rose, respectively, from 34,000 to 169,600, and from 64,500 to 216,300, or by factors of 5 and 3.3. The growth rates of student enrollment in industrial-technical schools considerably outstripped the growth rates of the overall number of students enrolled in higher and secondary educational institutions in the republics of the Soviet East. Compared with the other intelligentsia detachments, the training of engineering and technical cadres was conducted at a faster pace. Within that period the graduation of specialists from Uzbekistan VUZ's rose by a 2.5 factor compared with a factor of 3.7 from the technical VUZ's; the respective figures were 3 and 11 for Kazakhstan, and 3.1 and 6.8 for Kirgizstan.[32] Within that period the graduation of specialists from secondary specialized schools in Central Asia and Kazakhstan nearly tripled, while graduates of industrial-technical institutions almost quadrupled.[33]

Therefore, the industrial and technical schools of the area began to insure the training of cadres for industry, construction, transportation and communications.

In the period of the building and establishment of developed socialism, the party, soviet, and Komsomol organizations and public-education organs continued their efforts to enroll girls from the indigenous nationalities in higher and specialized secondary schools. Major changes were achieved as a result of the training of female national cadres. Thus, whereas between 1960 and 1970 the overall number of coeds doubled, the number of Uzbek coeds rose by a 3.7 factor; of Kazakh, 3.5; Krigiz, almost 4; Tadzhik, 3.5; and Turkmen, 2.5.[34]

The number of national women's cadres with higher and secondary specialized training rose steadily. By the end of 1968 women specialists employed in the USSR national economy numbered 66,300 Uzbeks, 63,300 Kazakhs, 13,800 Kirgiz, 9,800 Tadzhiks and 8,600 Turkmens. Despite this, unlike the central parts of the country, men remained clearly predominant among the national intelligentsia cadres of the area. Thus, whereas among specialists of Russian, Ukrainian and Belorussian nationalities with higher and secondary specialized training employed in the national economy, women accounted, respectively, for 61.9, 56 and 58.2%, they account for only 30.3% among specialists of Uzbek nationality, 39.5% of Kazakh nationality, 36.6% of Kirgiz nationality, 21.9% of Tadzhik nationality and 21.2% of Turkmen nationality.[35]

As in the prewar years, the Soviet intelligentsia of Central Asia and Kazakhstan remains multinational. The backbone of the intelligentsia of these republics (with the exception of Kazakhstan) consists of members of

the indigenous nationalities. The present indicators of the share and professional structure of the national intelligentsia of the area are similar to indicators characterizing other republics in the country.

The regionally uneven distribution of specialists has been eliminated. Before the war skilled specialist cadres, particularly engineering-technical and scientific workers, were concentrated in the central areas of the country. According to 1975 data, for each 1,000 workers, employees and kolkhoz members, there were 195 specialists with higher and secondary specialized training in the USSR, 179.5 in the Uzbek SSR, 184 in the Kazakh SSR, 186.4 in the Kirgiz SSR, 179.9 in the Tadzhik SSR and 165.1 in the Turkmen SSR.[36] The geographic distribution of the intelligentsia within the republics of the Soviet East has changed as well. Today a large army of specialists is at work not only in the big, but in the average and small towns, workers settlements, kolkhozes and sovkhozes. Thus between 1959 and 1975 the overall number of specialists with higher education employed in the national economy of the Uzbek SSR rose by a 2.9 factor, whereas it rose by a factor of 6.2 in Kashkadar'inskaya Oblast, 4.4 in Khorezmskaya Oblast, 4.9 in Bukharskaya Oblast, 6.2 in Surkhandar'inskaya Oblast and 4 in the Karakalpakskaya ASSR. The share of specialists with higher education employed in the national economy of Tashkent and Tashkentskaya Oblast in the overall number of republic specialists declined from 44.8 to 39.8%.[37] Similar changes in the deployment of intelligentsia cadres occurred in the other Central Asian republics and the Kazakh SSR. The elimination of the regional imbalance in the deployment of intellectual workers is one of the progressive trends in the development of the Soviet intelligentsia and of its national detachments.

As in the preceding period, in the Ninth Five-Year Plan the size of the Soviet intelligentsia, the national intelligentsia in particular, rose at an exceptionally high pace. The share of the national intelligentsia rose steadily among intellectual workers. Members of the indigenous nations among the engineering-technical and scientific workers rose at a faster pace. The social sources for the replenishment of the national intelligentsia continued to expand. The number of national women's cadres with higher and secondary specialized education continued to grow. In his speech on the 50th anniversary of the founding of the USSR, describing the great successes achieved by the peoples of the Soviet East in their socio-economic development, L. I. Brezhnev said: "No less striking are the results of the cultural development of Kazakhstan and the Central Asian republics. They have virtually reached the level of 100% literacy. Nearly one-half of their population consists of people with higher and secondary education (full or partial). In the Uzbek SSR alone there are today more specialists with higher and secondary specialized training than in the national economy of the entire Soviet Union at the end of the 1920's. Large-scale science has appeared and has firmly strengthened: many thousands of scientists are fruitfully working in the republics academies."[38]

The creation of the material and technical foundations for communism and the education of the new man raise ever new tasks in the training of skilled specialists for the various national economic sectors throughout the country, including Central Asia and Kazakhstan, which have a tremendous potential for the further development of production forces. The tasks of developing the natural resources of this area and of their utilization, upgrading production quality and effectiveness, insuring the further improvement of technological processes and labor organization, and the extensive application of the achievements of science and technology in production require the further growth of skilled cadres.

FOOTNOTES

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3. Figure based on "Narodnoye Khozyaystvo SSSR v 1965 g." [The USSR National Economy in 1965], Moscow, 1966, pp 691-692; "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR" [Public Education, Science and Culture in the USSR], Statistical Collection, Moscow, 1977, pp 156, 217.

4. "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Moscow, 1977, pp 177, 249.

5. Ibid, pp 234-236 and 240-244.

6. "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Statistical Collection, Moscow, 1971, pp 198-203.

7. Computed from "Narodnoye Khozyaystvo SSSR, 1922-1972" [The USSR National Economy, 1922-1972], Moscow, 1972, p 9; "Itogi Vsesoyuznoy Perepisi Naseleniya 1970 Goda" [Results of the 1970 All-Union Population Census], vol VI, Moscow, 1973, pp 6-13.

8. "Itogi Vsesoyuznoy Perepisi Naseleniya 1970 Goda," vol VI, pp 8-13.

9. Ibid, pp 6-13.

10. "XXIV S"yezd Kommunisticheskoy Partii Sovetskogo Soyuza" [24th CPSU Congress], Minutes, pt I, Moscow, 1971, p 99.

11. "Itogi Vsesoyuznoy Perepisi Naseleniya 1959 Goda," Moscow, 1962, p 175; "Itogi Vsesoyuznoy Perepisi Naseleniya 1970 Goda," vol VI, pp 628, 678, 690, 759 and 789,

12. "Narodnoye Khozyaystvo SSSR v 1965 g.," p 578; "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Moscow, 1971, p 234; "Itogi Vsesoyuznoy Perepisi Naseleniya 1970 Goda," vol VI, pp 6-13.

13. "Narodnoye Khozyaystvo SSSR v 1965 g.," p 576; "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Moscow, 1971, p 234; "Itogi Vsesoyuznoy Perepisi Naseleniya 1970 Goda," vol VI, pp 6-13, data on specialists on 1 December 1957.

14. Figure based on "Narodnoye Khozyaystvo SSSR v 1959 g." [The USSR National Economy in 1959], Statistical Yearbook, Moscow, 1960, pp 608-611.

15. "Narodnoye Khozyaystvo SSSR v 1965 g.," p 578; "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Moscow, 1977, p 292.

16. "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Moscow, 1977, p 292; "Sredneye Spetsial'noye Obrazovaniye v SSSR" [Secondary Specialized Education in the USSR], Moscow, 1962, pp 30-31.

17. "Itogi Vsesoyuznoy Perepisi Naseleniya 1970 Goda," vol III, Moscow, 1972, pp 408, 518, 527, 531, 534, 538.

18. Ibid, pp 206, 316 and 337.

19. Data for the Turkmen SSR are for 1960-1976.

20. Figure based on the following statistical collections: "Narodnoye Obrazovaniye Nauka i Kul'tura v SSSR," Moscow, 1977, p 294; "Sovetskiy Uzbekistan za XL Let" [40 Years of Soviet Uzbekistan], Tashkent, 1964, pp 273-274; "Narodnoye Khozyaystvo Uzbekskoy SSR v 1975 g." [The National Economy of the Uzbek SSR in 1975], Tashkent, 1976, p 292; "Narodnoye Khozyaystvo Kazakhstana" [The Kazakhstan National Economy], Alma-Ata, 1968, p 249; "Narodnoye Khozyaystvo Kazakhstana v 1975 g." [The Kazakhstan National Economy in 1975], Alma-Ata, 1976, pp 171-172; "Narodnoye Khozyaystvo Kirgizskoy SSR v 1974 g." [The National Economy of the Kirgiz SSR in 1974], Frunze, 1975, pp 231-232; "Narodnoye Khozyaystvo Kirgizskoy SSR v 1975 g.," Frunze, 1976, pp 262-263; "Narodnoye Khozyaystvo Tadzhikskoy SSR v 1971 g." [The National Economy of the TAdzhik SSR in 1971], Dushanbe, 1972, pp 131-132; "Narodnoye Khozyaystvo Tadzhikskoy SSR v 1975 g.," Dushanbe, 1966, pp 166-167; "Turkmenistan za L Let" [50 Years of Turkmenistan], Ashkhabad, 1974, pp 133-134.

21. "Itogi Vsesoyuznoy Perepisi Naseleniya 1970 Goda," vol VI, pp 21-21.

22. Ibid, pp 61, 71, 128, 136, 153.

23. Ibid, pp 20, 21, 60, 61, 70, 71, 127, 128, 135, 136, 152, 153.

24. Ibid, pp 20-22.

25. Ibid, pp 62, 72, 129, 132, 154.

26. Arutyunyan, Yu. V., and Drobizheva, L. M., "The General and the Specific in the Sociocultural Aspect of the Soviet Nations," in the book, "Sblizheniye Sotsial'no-Klassovoy Struktury Sovetskikh Natsiy i Narodnostey" [Drawing Closer Among the Socio-Class Structures of the Soviet Nations and Nationalities], Moscow, 1977, p 24.

27. See "Sotsial'naya Struktura Razvitogo Sotsialisticheskogo Obshchestva v SSSR" [Social Structure of the Developed Socialist Society in the USSR], Moscow, 1976, p 191.

28. "Narodnoye Khozyaystvo SSSR v 1959 g.," p 617; "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Moscow, 1977, p 296.

29. Evaluating data characterizing the growth rates of national cadres, we must take into consideration that a certain percentage of the indigenous nationalities live outside their respective republics.

30. "Narodnoye Khozyaystvo SSSR v 1959 g.," pp 608-611; "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Moscow, 1977, pp 292, 296.

31. "Narodnoye Khozyaystvo SSSR v 1959 g.," p 617; "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Moscow, 1977, pp 292, 296. We must consider that according to the 1970 census data 0.8% Uzbeks, 9.2% Kazakhs, 0.8% Kirgiz, 0.8% Tadzhiks and 1.5% Turkmens lived outside Central Asia and Kazakhstan.

32. At the beginning of the 1960's there were no technical VUZ's in the Tadzhik and Turkmen SSR's.

33. "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Moscow, 1977 pp 160-171 and 234-245.

34. Ibid, Moscow, 1971, 197-203.

35. Figure based on "SSSR i Zarubezhnyye Strany Posle Pobedy Velikoy Oktyabr'skoy Sotsialisticheskoy Revolyutsii" [The USSR and Foreign Countries Following the Victory of the Great October Socialist Revolution], Statistical Collection, Moscow, 1970, p 165.

36. Figure based on "Narodnoye Khozyaystvo SSSR za LX Let" [60 Years of the USSR National Economy], Anniversary Statistical Yearbook, Moscow, 1977, pp 356-357, 465; "Narodnoye Obrazovaniye, Nauka i Kul'tura v SSSR," Moscow, 1977, p 292.

37. "Sovetskiy Uzbekistan za XL Let," Anniversary Statistical Collection, Tashkent, 1964, p 275; "Narodnoye Khozyaystvo Uzbekskoy SSR v 1975 g.," Statistical Yearbook, Tashkent, 1976, pp 293-294.

38. Brezhnev, L. I., "O Pyatidesyatiletii Soyuza Sovetskikh Sotsialisticheskikh Respublik" [On the 50th Anniversary of the Founding of the Union of Soviet Socialist Republics], Moscow, 1972, pp 28-30.

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DEMOGRAPHY

UDC 312

ECONOMIST DISCUSSES DEMOGRAPHIC SCIENCE AND POLICY

Moscow VESTNIK AKADEMII NAUK SSSR in Russian No 1, Jan 80 pp 41-49

[Article by Doctor of Economic Sciences B. Ts. Urlanis]

[Text] The origin of demographic research in our country is closely associated with the St. Petersburg Academy of Sciences. This direction was initiated by M. V. Lomonosov, who on 1 November 1761 sent the treatise "On Multiplication and Preservation of the Russian People," devoted to demographic problems, to Count I. I. Shuvalov, at the time a favorite of Empress Elizabeth, on his birthday. We can say with full grounds that Lomonosov's work laid the foundation of Russian demographic science.

Demographic problems assumed a noticeable place in the Academy of Science in subsequent decades. The works by Eyler, Bernulli, Shletser, Kraft, and Shtorkh in the second half of the 18th century, of K. German, Arsen'yev, Milyutin, Bung, Keppen, Bunyakovskiy, Semenov, Yanson, and A. I. Chuprov in the 19th century, and of A. A. Chuprov and S. A. Novosel'skiy in the 20th century came into being either inside the academy or through its direct action and sponsorship. S. A. Novosel'skiy's book "Smertnost' i prodolzhitel'nost' zhizni v Rossii" [Mortality and Life Span in Russia] was awarded an academy prize in 1916.

Unfortunately our academy is associated today with demographic science only by a "thin thread" represented by the Scientific Council for Socioeconomic Population Problems of the USSR Academy of Sciences Economics Department. The USSR Academy of Sciences Demographic Institute, which was founded in 1930, was closed in 1934 and has not been reopened since. Meanwhile demographic is acquiring increasingly greater theoretical and practical significance. Its theoretical significance stems from the need for developing the fundamental laws governing the structure, dynamics, and distribution of the population in the conditions afforded by developed socialist society. Its practical significance, meanwhile, lies in the development of demographic policy.

Demographic policy is one of the elements of the social policy of the Communist Party and the Soviet government. Its purpose is to exercise a

certain influence upon demographic processes with the goal of optimizing them and making them more efficient. It should be emphasized that socialist society offers extensive possibilities for controlling demographic processes, since it possesses powerful levers which may be placed into action to impart the needed direction to these processes.

Demographic policy must be developed on strictly scientific grounds, it must be thought out deeply, carefully weighed, practically tested, and theoretically grounded. Only if we comply with these conditions can we count on having this policy produce the desired impact. Consequently developing maximally effective demographic policy is an important task of Soviet scholars. The 25th CPSU Congress turned its attention to this point. In his report, Comrade Leonid Il'ich Brezhnev stated: "Environmental and population problems that have recently grown in importance must not be ignored by Soviet scholars. Improvement of socialist exploitation of nature and development of an effective demographic policy is an important task of an entire complex of natural and social sciences."*

The sphere of application of demographic policy is extremely broad. Its object is all of the basic demographic processes. The emphasis among these processes should rest on the birth rate. The marriage and divorce rates also depend to a certain degree on the nature of legislation and certain court practices; mortality depends on the allocations to public health, environmental protection, and development of medical education, as well as on the standard of living, the working conditions, and many other factors. The migration level and the directions in which populations migrate are influenced significantly by the use of regional coefficients when determining wages, by the level of comfort offered to the particular population, and by passport policy. All aspects of demographic processes are associated to one degree or another with demographic policy.

Citizens of the USSR make up the Soviet people--a community of people having a culture of unified content and united by a common goal--development of communist society. This is precisely what predetermines the main direction of demographic policy, which in light of common principles and attitudes is the same for all peoples of our country, since all union republics within the Soviet Union participate in development of the new society to an equal degree and with equal activity. However, we could not ignore in this case the fact that significant differences exist between individual republics and between individual areas of the country in relation to both natural-climatic and economic conditions. There are significant differences in urbanization levels. Certain parts of the country possessing tremendous natural resources offer climatic conditions unfavorable to human life. Some union republics skipped the capitalist phase of development, going directly from feudalism to socialist production relationships. A number of regions have maintained their customs and traditions, ones different from the

* "Materialy XXV s"yezda KPSS" [Proceedings of the 25th CPSU Congress], Moscow, 1976, p 73.

customs and traditions seen in most other regions. All of these conditions and circumstances, superimposing over one another, create certain differences in the way of life of the people.

The objective of party and government policy is to smooth out these differences, to soften them, so that all Soviet people would be afforded the most equal living conditions possible. It is with this purpose that we are implementing a policy of bringing the standards of living of the city and countryside closer together, of eliminating the contradictions between mental and physical labor, of reducing the influence of geographic conditions, and so on. We can achieve these goals by manipulating the course of demographic processes only if we implement a differentiated demographic policy, which should be defined as a demographic policy implemented on the basis of a careful consideration of local conditions and circumstances with the purpose of achieving a maximum impact. Only a demographic policy of this sort would be able to lead us to the goals we seek.

Presence of local contrasts, described above, also necessitates determination of the urgency of implementing particular measures in particular regions of the country and, consequently, determination of the priorities in the implementation of particular forms of demographic policy. While taking account of the sovereignty of the union republics and the rights of autonomous republics, we should rely in this case on the resources of the local budgets, on the assets belonging to the state enterprises, and on the assets of the kolkhozes and the consumer cooperatives.

Differentiation of demographic policy would mean presence of the three following forms.

Zonal demographic policy, embracing significant territory with common soil-climatic conditions (the nonchernozem zone, the chernozem zone).

Regional demographic policy, embracing individual economic regions within the zones above, united by common economic and geographic conditions (for example the Central Industrial Region, and the most highly industrialized part of the Ukrainian SSR--the Donetsk-Pridneprovsk region).

Local demographic policy, implemented with a consideration for the unique features of the given administrative region, the given city, or the given locale. (This sort of local demographic policy is implemented because, for example, it might be necessary to raise the birth rate in a given city.).

We make a strict distinction between these forms of demographic policy so that we could insure solution of demographic problems step by step, and maintain certain priorities in the implementation of particular measures, thus raising the effectiveness with which resources allocated for these purposes are utilized.

A differentiated economic policy is being implemented in our country. There are significant differences between prices for procured agricultural products, in wages, and in the intensity of housing construction. What I am implying here is that we must supplement this differentiated economic policy with a differentiated demographic policy. This would make it possible to smooth out demographic differences and, in particular, insure expanded reproduction of the population not only in individual parts of the country but also in the country as a whole.

Implementation of a differentiated demographic policy requires a certain sort of demographic regionalization, which would entail establishment of regions affording similar demographic situations and geographic conditions.*

Not everyone agrees that we must implement a differentiated demographic policy. Thus, for example, it is noted in one article that the theory of differentiated demographic policy is "fundamentally erroneous."** The author of the article suggests the following argument as proof. Because (the author asserts) almost all republics are experiencing a decreasing birth rate, "were we to except the proposal of the defenders of a differentiated demographic policy, factors responsible for raising interest in increasing birth rate would weaken in the Transcaucasus and Central Asia as well."***

However, a significant decline in birth rate is not observed in any of the republics today. The birth rate coefficients (the number of births per 1,000 residents) for the union republic, which provide an approximately correct impression of birth rates in the 1970's, are shown in the table below.

The tabulated data clearly show that there are no grounds for suggesting a decline in births "in almost all of the republics." Only one out of the 15 republics, the Azerbaijan SSR, experienced a more or less noticeable decline in birth rate in the 8 years, and even in the Azerbaijan SSR the birth rate coefficient has been growing rather than falling in the last 5 years. And, in general, the problem in this case lies not in the nature of the birth rate dynamics but rather in the particular territorial differences in birth rate. The birth rate coefficient is 2-2.5 times higher for the Central Asian republics than for the RSFSR, the Ukrainian SSR, and

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* The first notion of the need for such a differentiated approach was stated by me back on 18 March 1966 in the report "Pressing Problems of Demography in the USSR" given at a meeting of the demographic section of the Moscow Palace of Scientists (see NAUKA I ZHIZN', No 12, 1967, pp 15-16).

** Ye. L. Manevich, "Population Reproduction and Manpower Utilization," VOPROSY EKONOMIKI, No 8, 1978, p 40.

*** Ibid.

Dynamics of Birth Rate Coefficients

Union Republic	1970	1971	1972	1973	1974	1975	1976	1978
RSFSR	14.6	15.1	15.3	15.1	15.6	15.7	15.9	15.9
Ukrainian SSR	15.2	15.4	15.5	14.9	15.1	15.1	15.2	14.7
Belorussian SSR	16.2	16.4	16.1	15.7	15.7	15.5	15.7	15.9
Moldavian SSR	19.4	20.2	20.6	20.4	20.4	20.7	20.6	20.1
Lithuanian SSR	17.6	17.6	17.0	16.0	15.8	15.7	15.7	15.3
Latvian SSR	14.5	14.7	14.5	13.9	14.2	14.0	13.8	13.6
Estonian SSR	15.8	16.0	15.6	15.0	15.1	14.9	15.1	14.9
Armenian SSR	22.1	22.6	22.5	22.1	21.9	22.4	22.7	22.2
Georgian SSR	19.2	19.0	18.0	18.2	18.3	18.2	18.2	17.7
Azerbaijan SSR	29.2	27.7	25.6	23.4	25.0	25.1	25.7	24.9
Kazakh SSR	23.3	23.8	23.5	23.2	24.1	24.1	24.3	24.4
Uzbek SSR	33.5	34.5	33.2	33.7	34.2	34.5	35.3	33.9
Tadzhik SSR	34.7	36.8	35.3	35.6	37.0	37.1	38.2	37.5
Turkmen SSR	35.2	34.7	33.9	34.3	34.4	34.7	34.7	34.4
Kirgiz SSR	30.5	31.6	30.5	30.6	30.5	30.4	31.3	30.4
USSR as a whole	17.4	17.8	17.8	17.6	18.0	18.1	18.4	18.2

the Baltic republics, this ratio being very stable. This circumstance is precisely what elicits the need for approaching the birth rate problems with a consideration for local conditions and features.

The author of the article mentioned above states the apprehension that implementation of a differentiated demographic policy would mean that "factors responsible for interest in raising the birth rate would weaken" in the Transcaucasus and Central Asia. First of all we should note that the Transcaucasus and Central Asia cannot be placed in the same bag. The Transcaucasian republics are more similar in birth rate to other European parts of the country. Central Asia is another matter. But even here there is no cause for the apprehension that "interest factors" would weaken as a result of the action of a differentiated demographic policy. Weakening of these factors is an objective law associated with the socialist way of

life. Soviet women must be afforded truly equal rights, and this can be achieved only with a sensible, optimum birth rate. Hence it does not at all follow that all assets allocated for the implementation of demographic policy must be spent in republics suffering a low birth rate. These assets must be distributed in proportion to population size, but the structure of the expenditures must differ in these cases. While republics experiencing a low birth rate require measures that stimulate births, republics with a high birth rate primarily require greater emphasis on measures aimed at reducing mortality. This approach is what we get when we implement a differentiated demographic policy, something of interest to all union republics.

Discussing demographic policy in relation to birth rates, let me note that by decision of the 25th CPSU Congress, beginning in the 10th Five-Year Plan mothers will be offered partially paid leaves until their children reach an age of 1 year. It should be noted that this measure has already been implemented to some extent on the initiative of certain organizations. In this connection a certain share of the wages provided to the mother must be utilized for the purposes of the differentiated policy.

The size of the share must increase depending on the following conditions and circumstances: the type of population center, the number of children in the home, and the intergenetic interval.

Type population center: We know that the birth rate is significantly lower in urban population centers than in rural ones: Wedded couples residing in cities usually limit themselves to a single child, while there are much fewer wedded couples of this sort in rural areas. Meanwhile the family of four is a widespread ideal among parents, and consequently the demographic policy must be structured such that it would promote creation of families with two children. Hence follows the need for encouraging the birth of second children in urban situations. In my opinion the proportion of the wage paid in cities to young mothers on leave following the "authorized" leave must be higher than in rural areas. As an example mothers in cities may be given 70 percent of their wages for the year following the birth of a second child, while mothers in rural areas may be given 50 percent of their wages.

Number of children in the home: There is no need to stimulate the birth of the first child. Only 1-2 percent of all wedded couples do not want any children at all. This means that offering women a partially paid leave following the birth of a first child would have the objective of materially supporting a young family when the mother capitalizes on the right afforded to her by law for a 1 year leave. A family with two wage-earners would transform into a family with one wage-earner in this period, while at the same time the number of family members rises by one person.

Partially paid leaves may acquire stimulatory significance if the share of the wage is made dependent upon the number of children already present. As

an example we could pay 40 percent of the wages upon the birth of the first child, 60 percent upon the birth of the second, and 80 percent upon the birth of the third. Seeking solutions to the problem of stimulating births, we must also keep in mind the need for offering women the opportunity for improving their education and culture.

The intergenetic interval, defined as the time between births: Following the birth of the first child, in a number of cases the parents immediately begin thinking about when to have the second child. Sometimes having this child is postponed considerably, and this often means that that second child never does see the light of day: Either the woman changes her mind, or the couple is divorced, or the husband dies. This raises the need for utilizing demographic policy to reduce the intergenetic interval. This means that the share of the wages to be paid out would best be made dependent upon the length of the intergenetic interval. This measure should cause an increase in the proportion of children having young mothers, and this in turn would have a favorable effect on the health of the population.

Among other measures to stimulate births, we can include additional pay to mothers as compensation for the outlays of maintaining the second, third, and fourth child, enlarging the amount of assistance paid to unwed mothers, expanding the network of boarding schools in a number of regions, increasing the availability of preschool institutions and schools operating on a longer day to the public, and so on. Considering the experience of the GDR, it would probably be suitable to introduce loans to young married couples to help them to gain living space in housing cooperatives, acquire durable goods, and so on. The amount of the loan to be paid back could be reduced following the birth of children, by 25 percent after the birth of the first child, by 50 percent after the birth of the second, and completely after the birth of the third. In order that laws requiring that pregnant working women be transferred from heavy to light labor would be complied with more fully, we should introduce additional payments that would decrease the material loss associated with such transfer.

Special mention should be made of the suitability of implementing the local demographic policy and studying its experience. Thus special directives aimed at improving the housing conditions of parents with small children have been published at certain construction sites and in certain cities, for example Tol'yatti. Special encouragement must be given to the practice, assumed by some cities, of placing children in preschool institutions not on the basis of the place of employment of the parents but rather their place of residence.

Going on to theproblems having to do with increasing life span, let me note that some demographers reject the possibility of any sort of demographic policy in relation to mortality. This position is entirely incorrect. Our task is to reduce mortality, and we must complete it with the greatest effectiveness--that is, the effect-cost ratio must be maximum.

Our society has as its task complete satisfaction of the needs of the population. It is being completed gradually, as the productivity of social labor is increased.

Discussing the needs of the population, we should emphasize the need for establishing a certain hierarchy of these needs, based on the urgency of their satisfaction. Without a doubt the health of the people should be at the top of this hierarchy. We must begin satisfying the needs of Soviet citizens by satisfying their health needs. "What is disease other than life constrained in its freedom?" wrote Karl Marx.*

Soviet public health now possesses considerable financial resources. Promoting the best expenditure of these resources is the immediate task of demography policy. But the health of citizens depends not only on the activities of public health organs. A distribution of resources and capital outlays, a ratio of consumption and accumulation, and a course of development in the services sphere that are optimum from the standpoint of public health play a significant role here. Promoting attainment of maximum success in this area should also be viewed as a task of demographic policy.

Demographic policy must also be differentiated in relation to mortality. Mortality is far from identical in all areas of the country. The issue of its reduction is more acute in some regions than in others. In a number of cases the need for public health services is more urgent in rural population centers than in urban ones. Revealing these differences and determining the ways for eliminating them is an important task of demographic policy.

I. R. Tarkhanov, a prominent Russian physiologist and a student of I. M. Sechenov, wrote almost 100 years ago that life span follows certain laws, and the study of these laws would "give man the possibility for controlling the phenomena of life to a certain degree and, consequently, making it the most beneficial to the needs of mankind."**

While at the end of the last century Tarkhanov stated that we can control the phenomena of life to only a certain extent, today this control is already being exercised on a greater scale, and demographic policy must play a major role in this control.

Now let us go on to demographic policy in its relationship to migration.

A tremendous disproportion exists in the Soviet Union between the distribution of the population and of the natural resources. Siberia and the Far East contain 80-90 percent of our fuel and power resources, but only 11 percent of the population lives there.

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* Marks, K., and Engel's, F., "Soch." [Works], Vol 1, p 64.

** VESTNIK YEVROPY, May 1891, p 142.

From the standpoint of manpower availability, our country may be subdivided into three categories of regions--labor-deficient, labor-sufficient, and labor-surplus. The first category contains almost all of the large cities and a number of rural regions. The second category contains small and moderate-sized cities and rural areas in a number of republics. The third category contains the rural population of the Central Asian republics, the Moldavian SSR, and the Western Ukraine.

The following question arises: What can we use as an indicator of the availability of manpower in a particular region? We do not have a precise indicator of this sort. All we can do is arrive at a certain impression of it on the basis of indirect characteristics. The latter include the size of the rural population. If the republic's rural population grows faster than agricultural production, there are grounds for suggesting that the rural population is not fully employed in this republic.

The number of vacant workplaces may serve as another indicator. When such an indicator is absent, it could be substituted to a certain extent by the shift coefficient. The ratio between the actual shift coefficient and the planned coefficient would provide an indication of the degree to which the manpower needs are satisfied.

The proportion of employees in the nonproductive sphere could serve as a third indicator. The greater the deficit of manpower, the smaller the possibilities for providing manpower to the services sphere, since the material production sphere has priority.

The frequency of overtime work, the incidence of second jobs, and other similar data characterizing the degree to which manpower is being utilized may be adopted as a fourth indicator. The number of man-days utilized in agriculture is a fifth indicator: A low number of the latter would indicate a labor surplus in the region.

An analysis of all of these indicators would afford a possibility for obtaining an integral indicator of the manpower need in different regions of the country. Possessing such an indicator, we would be able to observe its dynamics and take certain steps to reduce the disproportions between the demand for labor and its supply.

Speaking theoretically, given the freedom of travel and the appropriate conditions of compensation for labor, the people themselves could eliminate these disproportions by migrating. As a result certain migrational flows arise. The direction of the latter should tell us that manpower is flowing from labor-surplus regions into labor-deficient regions. In fact, however, this often fails to occur. To a certain extent the migrational flows proceed in the reverse direction, namely out of labor-deficient areas into labor-surplus areas. Evidence of this can be found in the negative net migration of West Siberia and the positive net migration of the Northern Caucasus and Central Asia. Excessive emigration of the rural population

from a number of economic regions of the RSFSR also argues in favor of this premise. This is the result of "self-initiated" migration, in which the interests of the national economy are made secondary to the interests of individuals.

Presence of migration processes that are contrary to the interests of the national economy clearly attests to the need for implementing a certain migration policy called upon to insure greater efficiency in migration processes.

Implementing a migration policy in this area is quite realistic, inasmuch as it could rely upon broad use of an entire system of social, economic, legal, and administrative levers. We are now using these levers, though not to their full potential.

When the party and the Komsomol appeal to the workers to participate in major construction projects (development of the virgin lands, the Baykal-Amur Mainline, and others), they are using social levers to bring manpower together in organized fashion.

Economic levers are put into action when we introduce regional pay enhancement coefficients; however, these coefficients require deep scientific grounds. These regional coefficients must provide for different forms of compensation. The first form of compensation is that of neutralizing the influence of higher regional prices. The second form of compensation is elicited by the need for considering greater expenditures for clothing, footwear, food, and heating in cold climates. The third form of compensation has the goal of rewarding a worker for going without creature conforts and for working in severe climatic conditions (in sub-zero weather, in the presence of midges and blood-sucking flies, and so on). The fourth form of compensation has to do with a greater proportion of purchases made at kolkhoz markets. And, finally, the fifth form of compensation must insure a higher level of consumption than that enjoyed in the region the worker had left. If the regional coefficients are set with a consideration for all of these forms of compensation, the material stimuli for creating migrational flows in the direction required by the national economy would be created.

As far as legal and administrative levers are concerned, they also can enjoy broad use in migration policy. The following measures to stimulate migration may be recommended in relation to labor-deficient regions. Extension of, in addition to pay, the right to a full pension to all employed persons; expansion of the homework system of production, which would encourage mothers with young children and group II and III invalids to work; enlargement of regional coefficients to a level which would insure compensation in all of its five forms indicated above; development of territorial cost of living indices, living condition indices, and standard of living indices to permit scientifically grounded establishment of regional coefficients; provision of the right to return to the place of former residence to all desiring to do so.

In addition we should implement special measures to raise the mobility of the rural population in Central Asian republics, where we observe a manpower surplus. These goals can be achieved, for example, by pendulum migration, which would permit the rural public to wor at industrial enterprises in the nearest cities without changing their place of residence.

We must also achieve full mechanization and automation primarily in regions affording extreme living conditions--that is, we must plan the level of mechanization in strict correspondence with labor availability.

The following measures that limit migration could be recommended in relation to the other type of labor-deficient regions: offering long-term loans to newlyweds to build homes in the countryside, organizing special secondary educational institutions in major rural population centers, increasing the construction of boarding schools, affording long-term loans to soldiers following military service on the condition that they settle in a rural population center, and so on.

All of these measures must be implemented on the basis of a differentiated demographic policy--that is, in compliance with strict priority depending on the availability of manpower in the given region.

By utilizing all of the levers at the disposal of the state, we would be able to control migration processes, and transform migration flows that are irrational from the national economy's point of view into rational flows--that is, flows which would fully reflect a harmonious combination of the interests of individual citizens and their families on one hand and the interests of socialist society and the national economy as a whole on the other.

If demographic policy is to make its greatest impact, we would have to develop demographic science. Meticulous analysis of the existing dependencies and deep study of the influence individual factors have are precisely what would permit demographic science to make recommendations that would promote implementation of the most effective demographic policy.

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